

AMENDMENT TO THE SPECIFICATION

Please replace the following paragraphs:

[0012] As shown in Fig. 1, the inspection system includes a remotely located control station 8 and an autonomous computer controlled robotic vehicle 10. The robotic vehicle 10 includes a main chassis 12, an extendable mast 14 attached to the main chassis 12, an articulating arm 16 coupled to the extendable mast 14, and a sensor package 18 attached to the articulating arm 16. The robotic vehicle 10 is controlled to move about a structure to be inspected (the aircraft in the illustrated embodiment) based on commands received from the control station 8 via a wireless communication system. As just one example, a wireless local area network (LAN) can be provided to facilitate communication between the robotic vehicle 10 and the control station 8. Sensors within the sensor package 18 take non-destructive measurements as the robotic vehicle 10 maneuvers about the structure to be inspected.

[0013] As shown in greater detail in Fig. 2, the main chassis 12 contains a propulsion system for the robotic vehicle 10 that includes a battery pack 20 and at least one electric motor driven wheel 21, electronic equipment compartments 22 to handle the electronic systems necessary to control the robotic vehicle 10 and interface with the sensor platform 18 and the control station 8, and a laser positioning head 24 that forms part of a laser guidance system that is used to identify the position and control the movements of the robotic vehicle 10. In the illustrated embodiment, the propulsion system preferably utilizes two motor driven wheels 21 and a free castor 23 (not shown) arranged in a triangular arrangement, with the second motor driven wheel 21 being located approximately beneath the laser positioning head 24, and the batteries 20 having sufficient capacity to allow operation for at least eight hours. It should be noted, however, that other types of propulsion systems - -including propane or other types of combustion engines- - could be used based on the intended application of the inspection system. The main chassis 12 has a low-slung profile, which enables the main chassis 12 to be maneuvered under portions of the structure to be inspected (for example the wings of the aircraft), thereby greatly enhancing the ability to locate the sensor package 18 adjacent to any

*C2
end*

desired location on the structure. In the illustrated embodiment, the height of the main chassis 12 is preferably kept to less than one meter.

C3

[0020] As previously stated, the primary positioning of the primary mast section 26, the secondary mast section 28 and the tertiary mast section 30 are controlled by the motor and cable drive system 31. However, it is preferably to provide for fine adjustment of the tertiary mast section 30. In the illustrated embodiment, fine adjustment is accomplished by a rack and pinion drive system that includes drive motor 45, drive gears 47 (shown in Figs. 7 and 8 Fig. 7) and racks 49 (shown in Fig. 2) provided on the tertiary mast section 30. Accordingly, fine positioning of the articulating arm 16 can be accomplished once the tertiary mast section 30 has been raised by the motor and cable drive system 31.